

## **Phase Three: Data Collection and Analysis**

### **Progress Report**

# **Total Maximum Daily Loads for Fecal Coliform in Pajaro River, San Benito River, Llagas Creek and Tequisquita Slough**

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## **Introduction**

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This progress report has been prepared to summarize preliminary data collection and analysis of the Central Coast Ambient Monitoring Program (CCAMP) and to lay the foundation for conducting TMDL source analysis activities. Attachment A contains a draft source analysis study plan and Attachment B contains CCAMP data that has been used to formulate this preliminary analysis. The Pajaro River, San Benito River, Llagas Creek, and Tequisquita Slough were listed in 1998 as impaired waterbodies due to excessive fecal coliform levels. The listing was based on 1997-1998 CCAMP results for fecal coliform. Subsequent to the listing, additional CCAMP data (both fecal coliform and *E. coli*) was collected in 2005-2006. This progress report summarizes the results of these two CCAMP activities and forms the foundation for additional activities that will be conducted as part of the TMDL source analysis.

### **1.1. Data Sources**

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Staff contacted the following agencies and parties to determine if bacteriological data was available for surface waters within the Pajaro River watershed (including tributaries):

Pajaro Valley Water Management Agency, Jonathan Lear  
San Benito County Water District, Jeff Cattaneo  
Santa Clara County Water District, Carol Presley  
University of California, Santa Cruz – Marc Los Huertos  
South County Regional Wastewater Authority, Saeid Vaziry

Based on these contacts, additional bacteriological water quality data was not available. Therefore, the only data included in this preliminary analysis is from CCAMP.

### **1.2. CCAMP Data**

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The CCAMP conducted water quality monitoring within the Pajaro River watershed from 1997-1998 and from 2005-2006. The first sampling period included fecal coliform results only while the second sampling period included both fecal coliform and *E. coli* results. It is important to note that additional monitoring sites were added to the 2005-2006 sampling round. Figure 1 shows the CCAMP monitoring locations used for this preliminary data analysis. Figures 2 and 3 show median values for fecal coliform and *E. coli*, respectively. Note that *E. coli* analysis was not conducted for all sampling locations, as indicated in Figure 3.

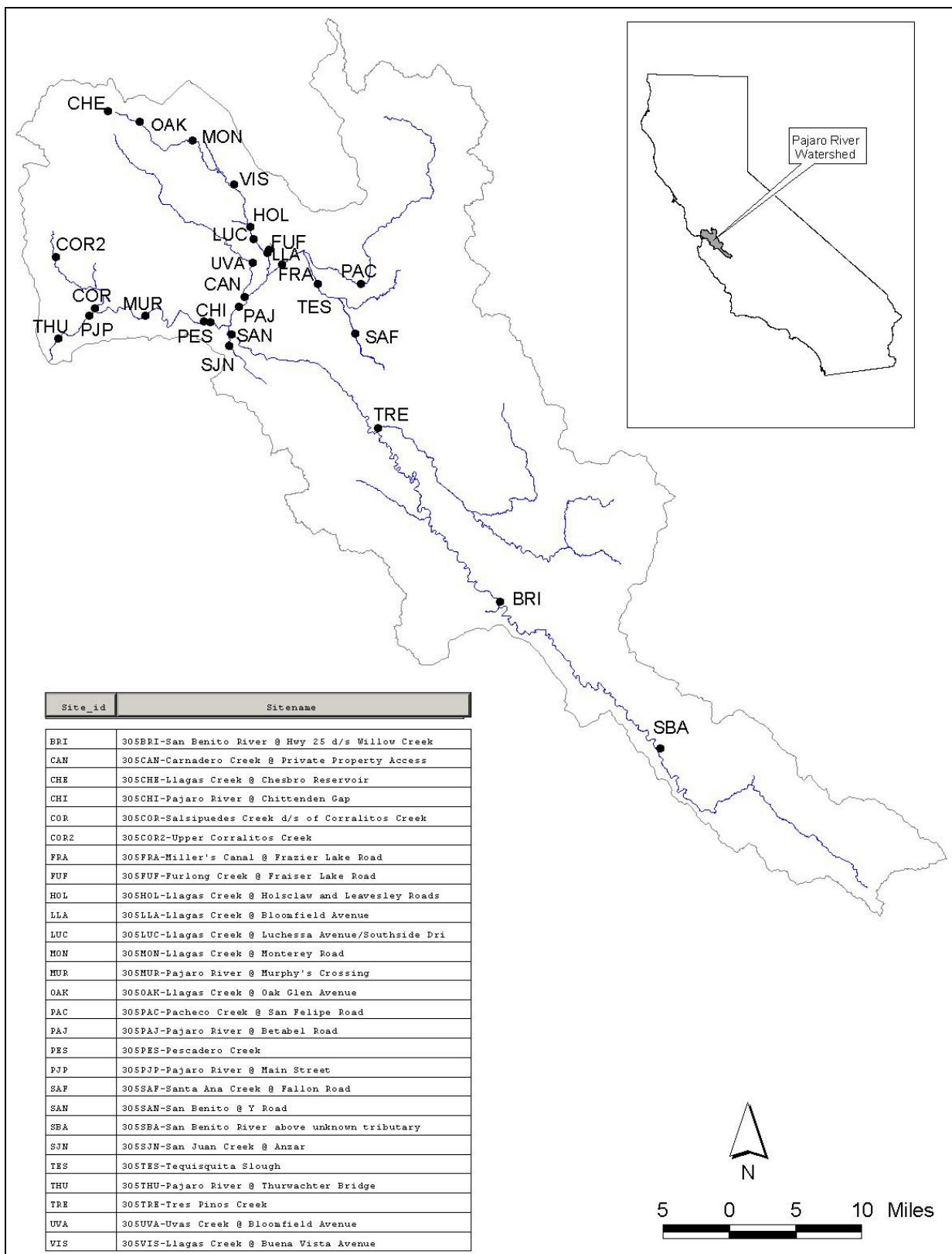


Figure 1. CCAMP monitoring locations.

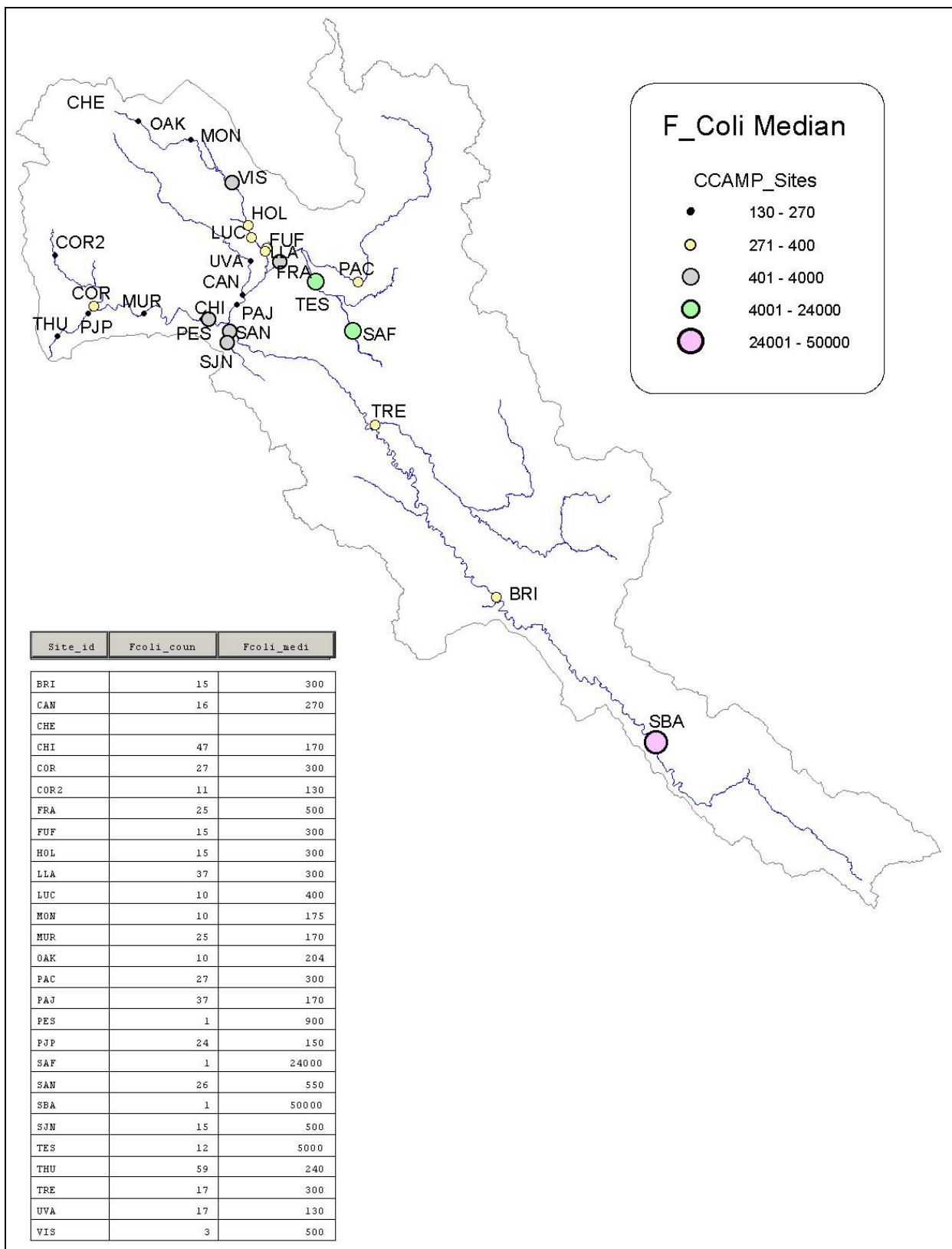


Figure 2. Median fecal coliform values (CCAMP).

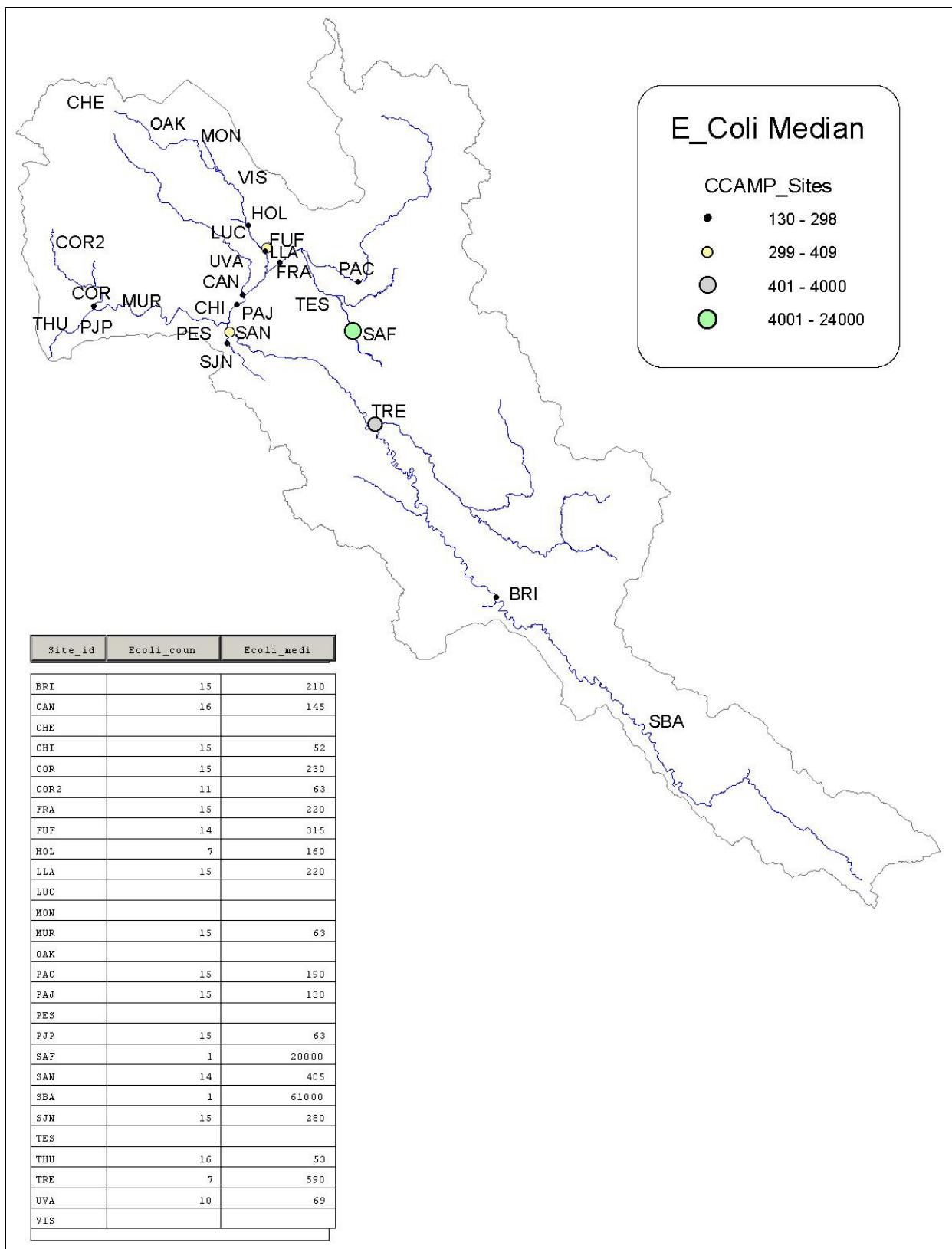


Figure 3. . Median *E. coli* values (CCAMP).

Figure 4 below shows the maximum and median fecal coliform values for all samples obtained during the two CCAMP monitoring periods. Monitoring locations are on the x-axis with fecal coliform values along the y-axis. The horizontal line represents the single sample maximum fecal coliform WQO value of 400 MPN/100ml. Downstream locations along the Pajaro River are depicted on the left side of the x-axis (305THU through 305FRA), with 305THU representing a location near the mouth of the Pajaro River. Tributary streams are represented in the order in which they meet with the Pajaro River, beginning with Corralitos Creek (305COR, 305COR2), Pescadero Creek (305PES), and San Benito River stations (305SAN through 305SBA). It is important to note that the graph below depicts sites for Watsonville Slough (305HAR, 305STL, and 305WSA) and Corralitos Creek (305COR, 305COR2), which are not a part of this data analysis, as separate fecal coliform TMDLs will be developed for these waterbodies. Please refer to Figure 1 for monitoring site locations and their descriptions.

Fecal coliform maximum values exceed WQO's at all stations except for upper portions of Llagas Creek (305MON and 305OAK). The highest maximum values are found at San Benito River sites (305SJN, 305SAN, 305TRE, and 305BRI).

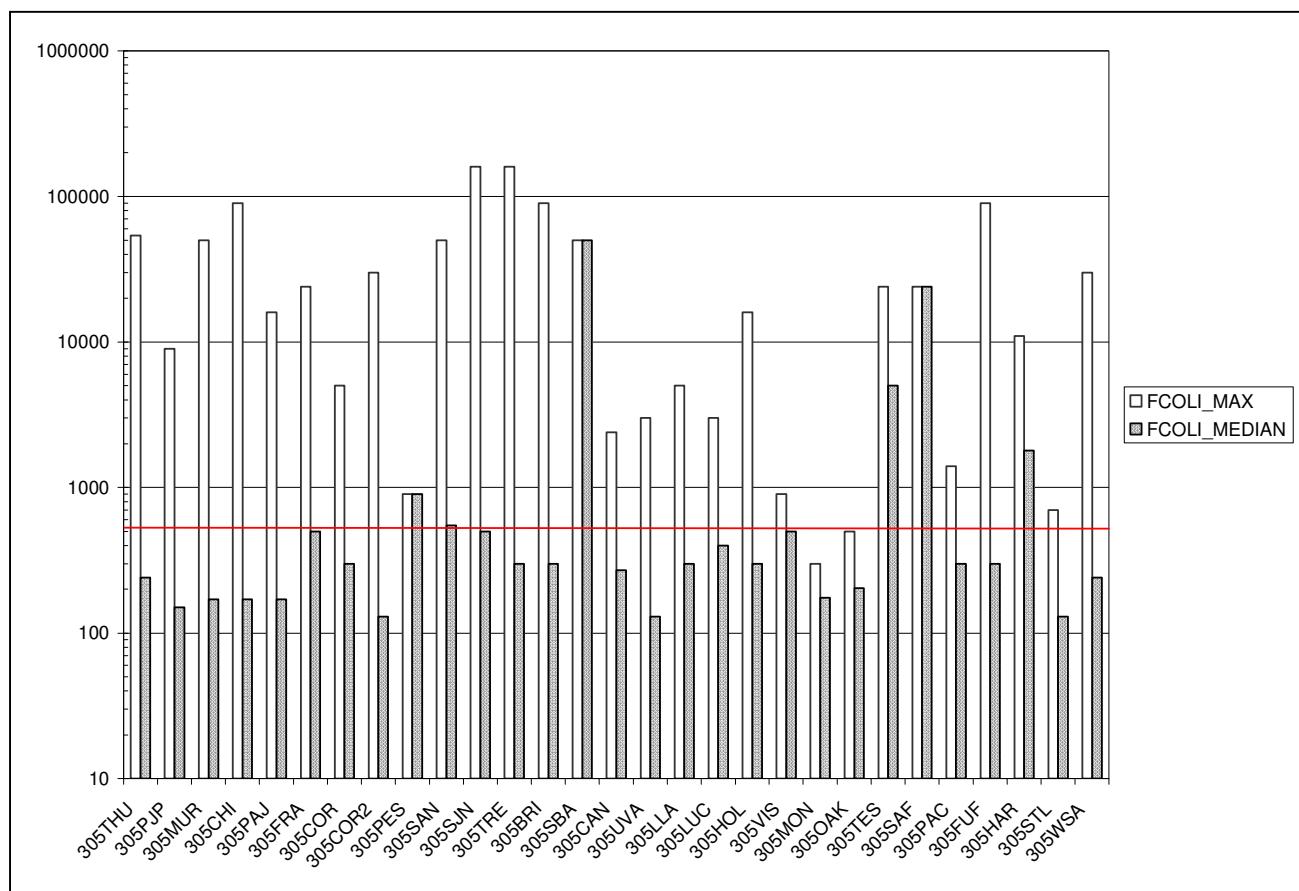


Figure 4. CCAMP maximum and median fecal coliform results.

Figure 5 shows maximum wet season values (November-April) and maximum dry season (May-October) values. Wet season values are generally greater for all stations with the exception of stations located along Uvas and Llagas Creeks (305CAN through 305LUC)

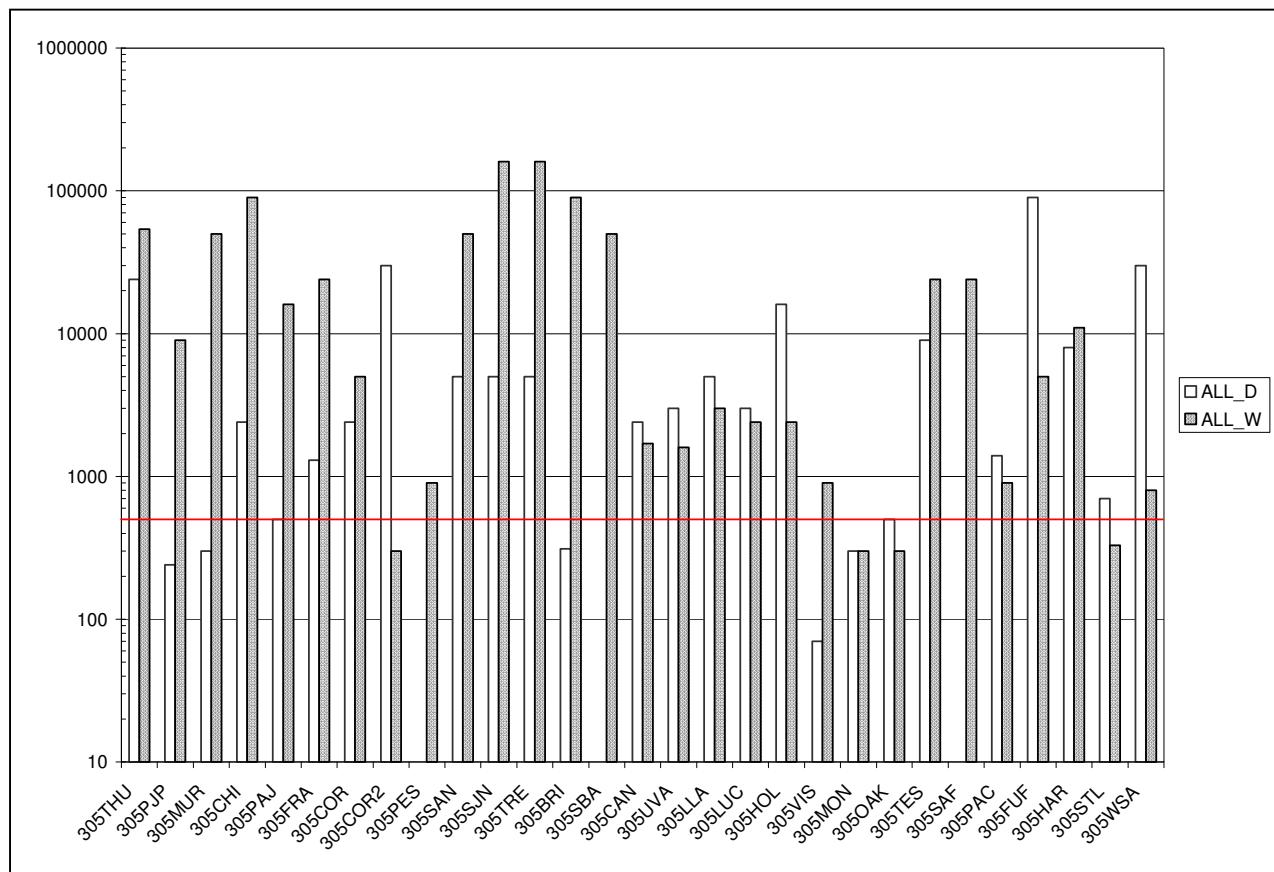


Figure 5. CCAMP maximum fecal coliform values based on wet (Apr-Nov) and dry (May-Oct) seasons.

Figure 6 shows the maximum and median *E. coli* values for all samples obtained during the two CCAMP monitoring periods. Note that data was not obtained for some sampling sites. The horizontal line represents the EPA-recommended single sample maximum *E. coli* value of 409 MPN/100ml for protection of lightly used full body contact recreation. The EPA-recommended single sample maximum for protection of moderate full body contact recreation is 298 MPN/100ml.

*E. coli* values at these Pajaro River sites are similar to the fecal coliform results, where most stations exceed both of the EPA-recommended values.

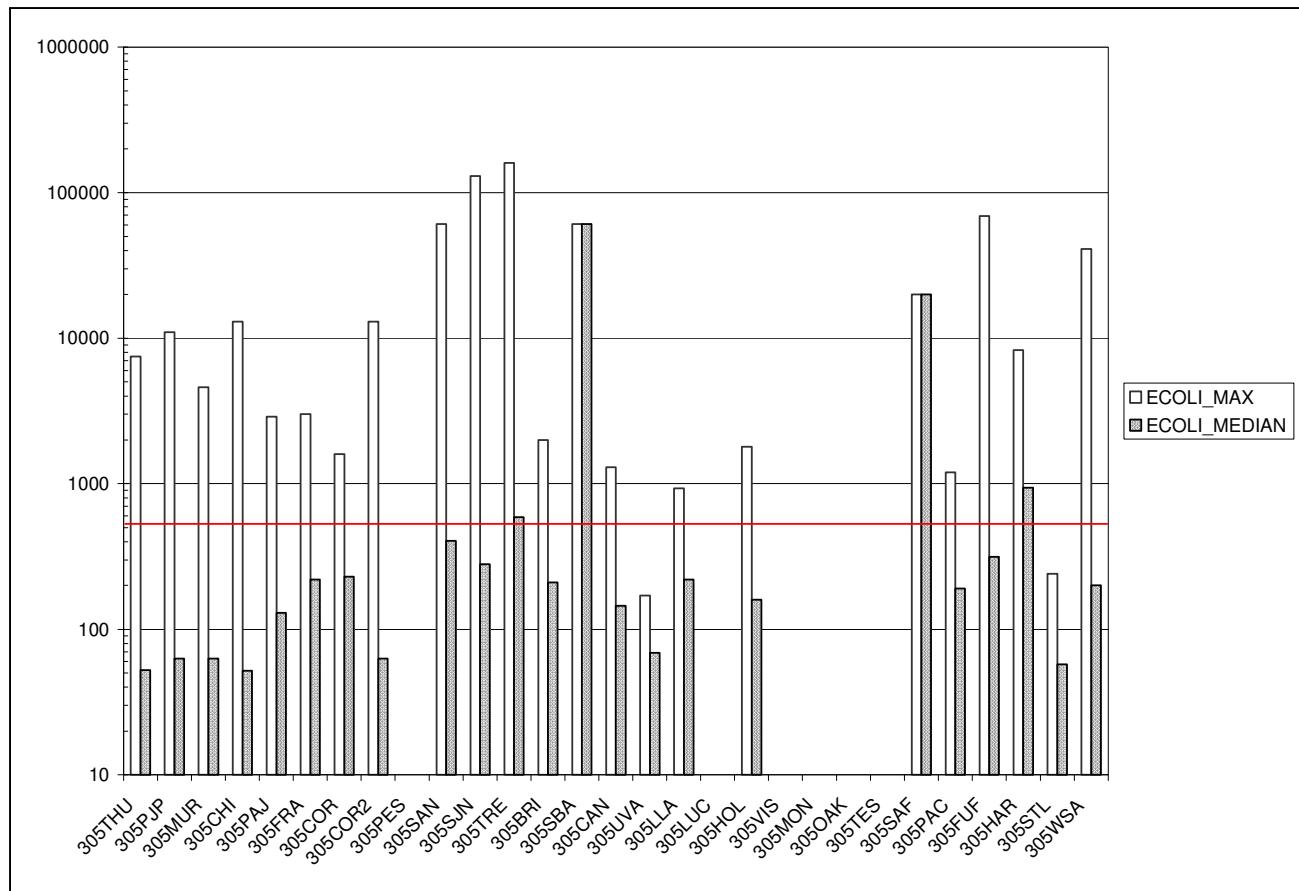


Figure 6. CCAMP maximum and median *E. coli* results.

Figure 7 shows maximum *E. coli* wet season values (November-April) and maximum dry season (May-October) values. Wet season values are consistently greater for all stations within the Pajaro River study area.

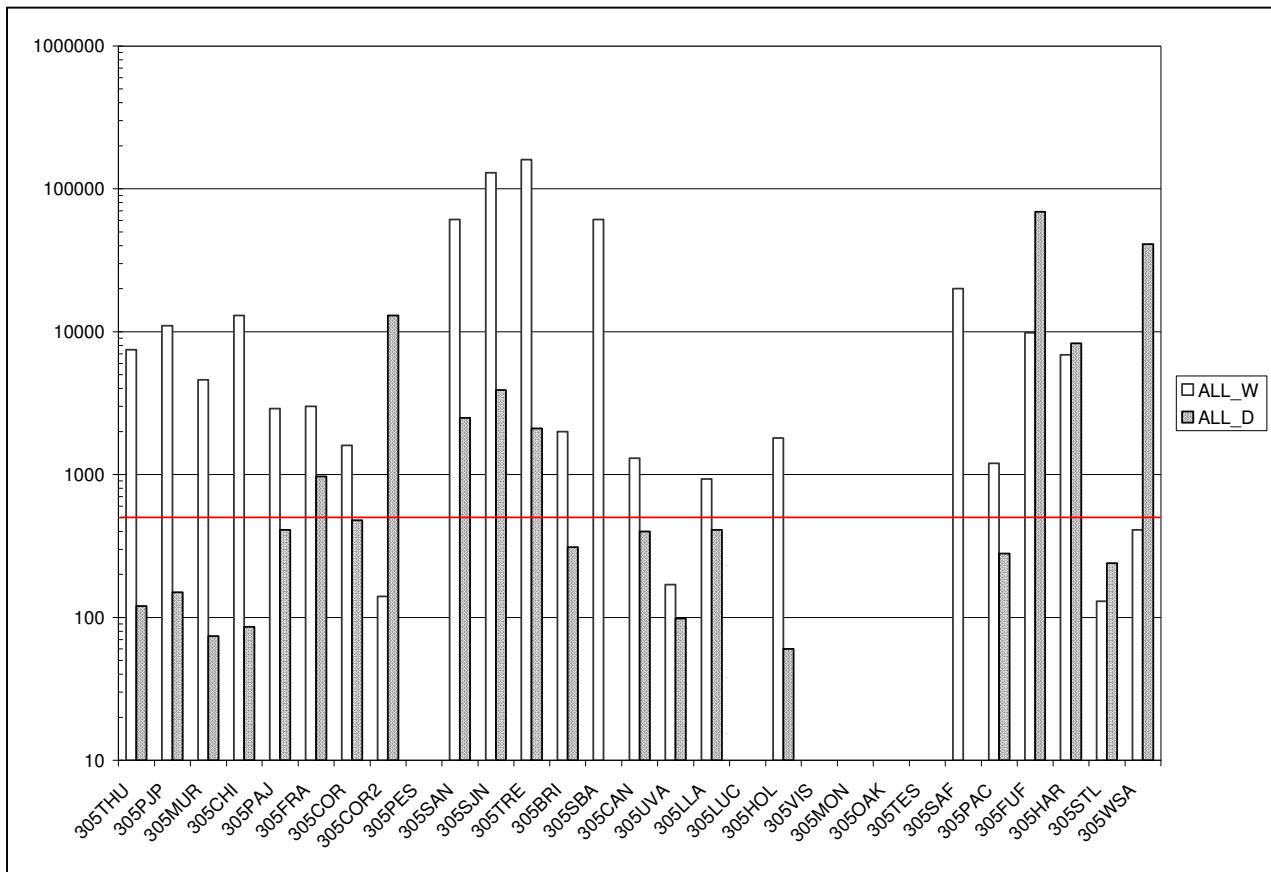


Figure 7. CCAMP maximum *E. coli* values based on wet (Apr-Nov) and dry (May-Oct) seasons.

Staff performed additional data analysis to determine if recent 2005-2006 data suggests an improvement or degradation in water quality conditions since the 1997-1998 CCAMP monitoring period. It is important to note that this comparison only includes fecal coliform values because *E. coli* sampling was not conducted during the 1997-1998 sampling period and that not all locations have comparative values. Figures 8 and 9 below compare maximum and median fecal coliform values for the two monitoring periods, respectively. As shown in Figure 8, where two values are available for comparison, maximum values are generally greater in the more recent (2005-2006) sampling round, with the exception of the two stations on Llagas Creek (305HOL and 305LLA) and three stations along the Pajaro River (305THU, 305PAJ and 305PES).

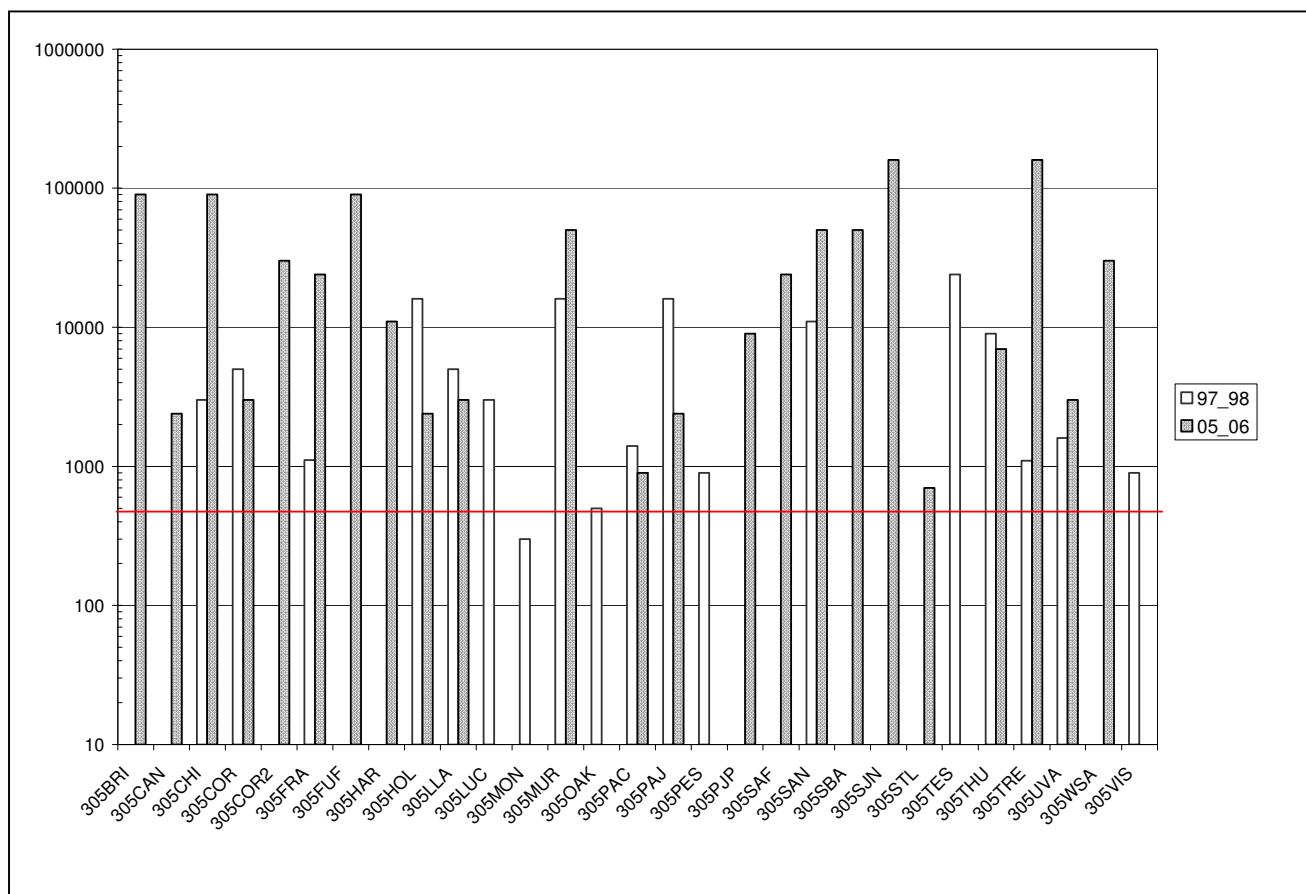


Figure 8. Comparison of CCAMP maximum fecal coliform values between the two sampling events (1997-1998 and 2005-2006)

As shown in Figure 9, where two values are available for comparison, median values are generally greater in the more recent (2005-2006) sampling round. These results are similar to a comparison of maximum values where two stations on Llagas Creek (305HOL and 305LLA) and three stations along the Pajaro River (305THU, 305PAJ and 305PES) show an improvement.

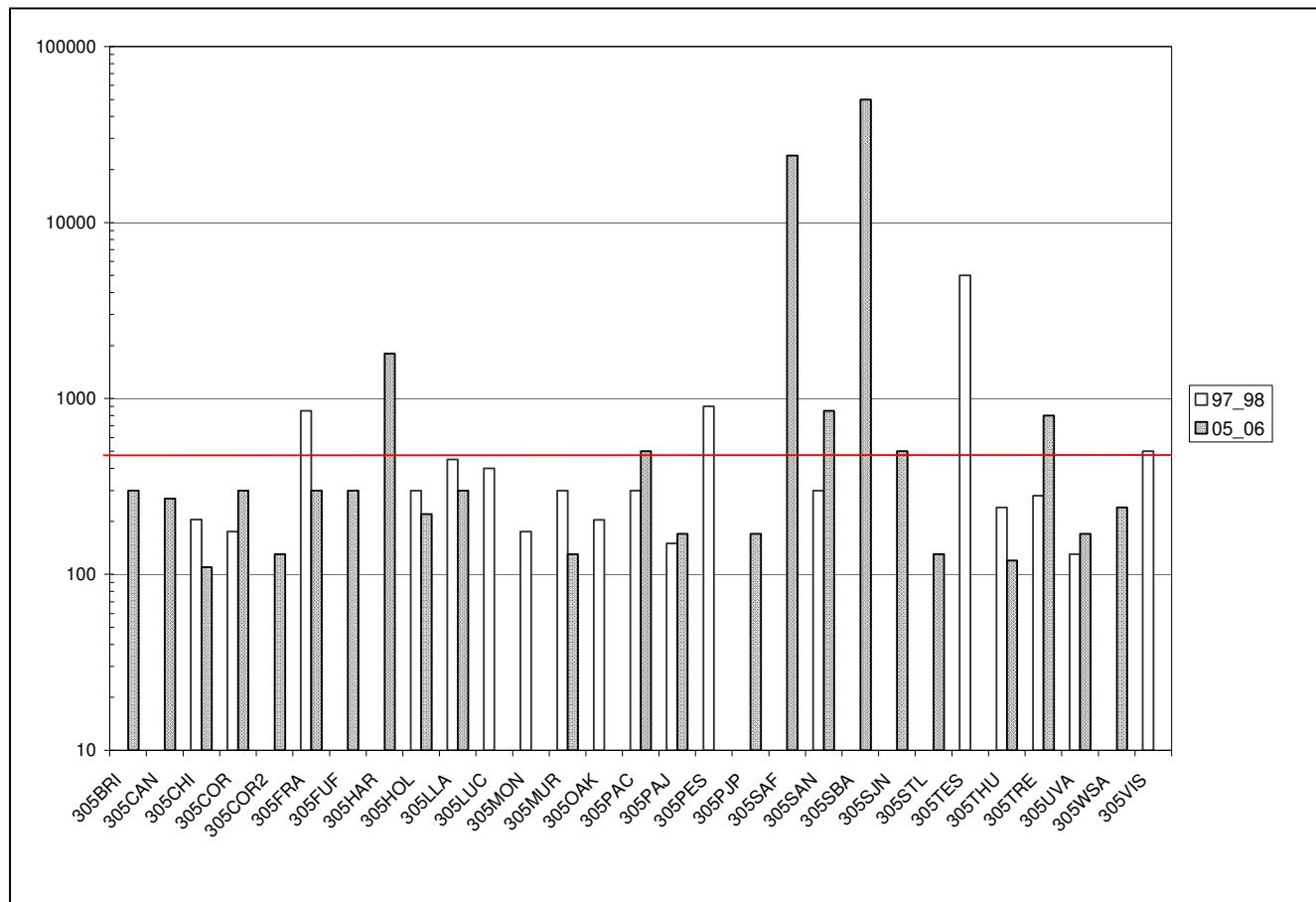


Figure 9. Comparison of CCAMP median fecal coliform values between the two sampling events (1997-1998 and 2005-2006)

### **1.3. Preliminary Conclusions**

As indicated in this preliminary data analysis, both fecal coliform and *E. coli* values consistently exceed established WQO's and EPA-recommended levels throughout the watershed. Wet and dry weather values also consistently exceed these objectives, though wet weather is attributed to the greatest levels for both fecal coliform and *E. coli*. The greatest values are observed at stations along the San Benito River watershed (305SJN, 305SAN, 305TRE, and 305BRI), an area noted for grazing activities. Two monitoring stations (305MON and 305OAK) exhibit good water quality, though these stations were not included in the recent sampling round. These stations may serve as reference sites.

There does not appear to be a pattern of WQ improvement between the two monitoring periods, indicating that further TMDL development is necessary and that a de-listing will not be proposed.

### **1.4. Next Steps**

Staff will perform GIS analysis (both land use activities and aerial photo interpretation) and conduct field reconnaissance to identify potential sites that meet the goals of identifying sources. Sites will be selected to identify background conditions and to understand contributions from various land uses and/or other potential sources in the study area. Staff will collect water quality samples to evaluate these potential sources and determine their magnitude. The goals of this additional sampling include:

- 1) to evaluate relative contributions upstream and downstream of sources, such as the urban areas (Hollister, Gilroy, San Juan Bautista), irrigated agriculture, and grazing lands;
- 2) to evaluate relative contributions in irrigated agricultural drainages to creeks and waterbodies;
- 3) to determine concentrations in unimpaired waterbodies, to gain information on background or reference conditions.

A draft source analysis study plan is included in Attachment A.

# **APPENDIX A**

## **DRAFT SOURCE ANALYSIS STUDY PLAN**



## **Fecal Coliform TMDL Source Analysis Study Plan for Pajaro River Watershed (including Pajaro River, San Benito River, Llagas Creek and Tequisquita Slough)**

### **Introduction**

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The Pajaro River, San Benito River, Llagas Creek, and Tequisquita Slough have been listed as impaired by fecal coliform. The basis for the listing is data from the Central Coast Ambient Monitoring Program, collected in 1998. Data will be collected in this study to support development of a Total Maximum Daily Load (TMDL) source analysis of fecal coliform in these watersheds.

#### **1.1. Goals and Objectives of Monitoring**

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The goal of monitoring is to better characterize sources of fecal coliform in the Pajaro River, San Benito River, Llagas Creek, and Tequisquita Slough watersheds. This information will be used to develop TMDL Source Analyses for the waterbodies, based on violation of the fecal coliform water quality objectives (WQO's) and EPA-recommended WQO's for *E. coli*. The objectives of monitoring are as follows:

- 4) to evaluate relative contributions upstream and downstream of sources, such as the urban areas (Hollister, Gilroy, San Juan Bautista), irrigated agriculture, and grazing lands;
- 5) to evaluate relative contributions in irrigated agricultural drainages to creeks and waterbodies;
- 6) to determine concentrations in unimpaired waterbodies, to gain information on background or reference conditions.

#### **1.2. Site Selection**

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Staff will perform GIS analysis (both land use activities and aerial photo interpretation) and conduct field reconnaissance to identify potential sites that meet the goals and objectives of monitoring discussed above. Sites will be selected to identify background conditions and to understand contributions from various land uses and/or other potential sources in the study area. Staff will collect water quality samples to evaluate these potential sources and determine their magnitude.

#### **1.3. Analytical Method**

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The IDEXX Colilert-18 method will be used to determine most probable number of fecal coliform and *E.coli*. IDEXX Colilert-18 and dilution protocols can be found at <http://www.idexx.com/water/products/colilert18/>.

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#### **1.4. Sample Handling**

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Gloves will be used during sample collection. Samples will be maintained at 4°C during transport. Regional Board staff will collect and transfer samples and analyze them at the RWQCB laboratory. Analysis will be attempted within 6 hours of sample collection, but a 24-hour holding time will be considered acceptable. If the samples are in more than one staff person's custody, a Chain of Custody form will be attached to the field sheet.

#### **1.5. Sampling Duration, Timing, and Frequency**

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Samples will be taken during the summer and fall of 2006 when flow is available. Sampling will be dependant upon landowner access, irrigation schedules, precipitation/runoff, and laboratory and staff resources. The timing and numbers of samples that staff is planning to collect are to be determined on the GIS analysis and field reconnaissance. Dilutions will be used as necessary to meet monitoring objectives and as resources allow. Staff anticipates collecting between 60 and 100 total samples. Sterile pipettes and additional IDEXX Quanti-Trays and reagent may be needed if additional dilutions are needed.

#### **1.6. Quality Assurance**

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Fields sampling protocols will follow SWAMP and CCAMP standard operating procedures. Blind field duplicate samples will be taken for 5% of total sites or 1 per sampling period. Duplicates samples are collected side by side with the original sample. All data will be double checked following data entry into the database. Data will be checked for outliers and for exceedances of SWAMP data quality objectives.

Data will be qualified with a flag if it meets one of the following criteria:

- Blind field duplicates for coliforms exceed the 95% confidence interval values from Standard Methods (1999) for multiple tube dilutions.
- Holding time is not met.

#### **1.7. Data Management**

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The following fields will be included on the data sheet:

ProjId	SiteTag	Entry QA	QAQC	Date Time	Sampler	Purpose	Notes	Weather	ECOLI	Fecal coliform
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Data will be entered into the CCAMP data management system for upload into the Surface Water Ambient Monitoring Program system and STORET. All sites will be documented with full site descriptions, latitude and longitude.

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## **APPENDIX B**

## **CCAMP DATA**





SiteTag	DateTime	FCOLI	ECOLI	PERIOD	FCOLI_COUNT	FCOLI_MAX	FCOLI_MEDIAN	ECOLI_COUNT	ECOLI_MAX	ECOLI_MEDIAN
305CHI	9/10/98	80								
305CHI	9/30/98	240								
305CHI	10/15/98	170								
305CHI	10/21/98	170								
305CHI	11/4/98	170								
305CHI	11/10/98	300								
305CHI	12/2/98	500								
305CHI	12/16/98	170								
305CHI	1/7/99	130								
305CHI	1/24/05	50	41							
305CHI	2/22/05	500	340							
305CHI	3/23/05	90000	13000							
305CHI	4/19/05	50	110							
305CHI	5/17/05	50	10							
305CHI	6/14/05	130	86							
305CHI	7/19/05	30	20							
305CHI	8/17/05	80	10							
305CHI	9/13/05	240	31							
305CHI	10/12/05	80	41							
305CHI	11/9/05	110	41							
305CHI	12/6/05	50	120							
305CHI	1/10/06	700	190							
305CHI	2/21/06	500	52							
305CHI	3/14/06	3000	4400							
305CHI		97_98_D		16	2400	205				
305CHI		97_98_W		16	3000	235				
305CHI		97_98		32	3000	205				
305CHI		05_06_D		6	240	80	6	86	26	
305CHI		05_06_W		9	90000	500	9	13000	120	
305CHI		05_06		15	90000	110	15	13000	52	
305CHI		ALL_D		22	2400	170	6	86	26	
305CHI		ALL_W		25	90000	300	9	13000	120	
305CHI		ALL		47	90000	170	15	13000	52	
305COR	12/18/97	5000								
305COR	1/19/98	900								
305COR	2/19/98	3000								
305COR	3/12/98	80								
305COR	5/27/98	80								
305COR	6/30/98	70								
305COR	7/31/98	300								
305COR	9/3/98	240								
305COR	9/30/98	2400								
305COR	10/21/98	110								
305COR	11/10/98	70								
305COR	12/16/98	70								
305COR	1/24/05	2400	10							
305COR	2/22/05	300	380							
305COR	3/23/05	2400	730							
305COR	4/19/05	30	41							
305COR	5/17/05	80	31							
305COR	6/14/05	220	120							
305COR	7/19/05	240	480							
305COR	8/17/05	300	360							
305COR	9/13/05	500	360							
305COR	10/12/05	110	230							
305COR	11/9/05	300	320							
305COR	12/6/05	500	210							
305COR	1/10/06	2300	130							
305COR	2/21/06	80	35							
305COR	3/14/06	3000	1600							
305COR		97_98_D		6	2400	175				
305COR		97_98_W		6	5000	490				
305COR		97_98		12	5000	175				
305COR		05_06_D		6	500	230	6	10	8	
305COR		05_06_W		9	3000	500	9	3000	500	
305COR		05_06		15	3000	300	15	1600	230	

SiteTag	DateTime	FCOLI	ECOLI	PERIOD	FCOLI_COUNT	FCOLI_MAX	FCOLI_MEDIAN	ECOLI_COUNT	ECOLI_MAX	ECOLI_MEDIAN
305COR				ALL_D	12	2400	230	6	480	295
305COR				ALL_W	15	5000	500	9	1600	210
305COR				ALL	27	5000	300	15	1600	230
305COR	1/24/05	30	41							
2										
305COR	2/22/05	80	41							
2										
305COR	3/23/05	240	140							
2										
305COR	4/21/05	30	31							
2										
305COR	5/19/05	30000	13000							
2										
305COR	6/16/05	500	170							
2										
305COR	7/21/05	130	63							
2										
305COR	12/8/05	80	110							
2										
305COR	1/12/06	50	41							
2										
305COR	2/23/06	130	90							
2										
305COR	3/16/06	300	54							
2										
305COR				05_06_D	3	30000	500	3	13000	170
2				05_06_W	8	140	48	8	140	48
305COR				05_06	11	30000	130	11	13000	63
2				ALL_D	3	30000	500	3	13000	170
305COR				ALL_W	8	140	48	8	140	48
2				ALL	11	30000	130	11	13000	63
2										
305FRA	2/10/98	1110								
305FRA	3/5/98	800								
305FRA	6/12/98	500								
305FRA	7/20/98	900								
305FRA	8/11/98	1100								
305FRA	9/10/98	900								
305FRA	10/15/98	900								
305FRA	11/4/98	500								
305FRA	12/2/98	500								
305FRA	1/7/99	170								
305FRA	1/25/05	30	52							
305FRA	2/23/05	50	86							
305FRA	3/24/05	24000	3000							
305FRA	4/20/05	50	35							
305FRA	5/18/05	300	250							
305FRA	6/15/05	800	280							
305FRA	7/20/05	1300	970							
305FRA	8/18/05	500	300							
305FRA	9/15/05	300	260							
305FRA	10/13/05	300	63							
305FRA	11/10/05	300	74							
305FRA	12/7/05	130	74							
305FRA	1/11/06	800	220							
305FRA	2/22/06	50	10							
305FRA	3/15/06	800	570							
305FRA				97_98_D	5	1100	900			
305FRA				97_98_W	5	1110	500			
305FRA				97_98	10	1110	850			
305FRA				05_06_D	6	1300	400	6	970	270
305FRA				05_06_W	9	24000	130	9	3000	74
305FRA				05_06	15	24000	300	15	3000	220
305FRA				ALL_D	11	1300	800	6	970	270
305FRA				ALL_W	14	24000	400	9	3000	74
305FRA				ALL	25	24000	500	15	3000	220







SiteTag	DateTime	FCOLI	ECOLI	PERIOD	FCOLI_COUNT	FCOLI_MAX	FCOLI_MEDIAN	ECOLI_COUNT	ECOLI_MAX	ECOLI_MEDIAN
305PAC	5/27/98	30								
305PAC	6/30/98	50								
305PAC	7/31/98	330								
305PAC	9/3/98	1400								
305PAC	9/30/98	170								
305PAC	10/21/98	300								
305PAC	11/10/98	500								
305PAC	12/16/98	70								
305PAC	1/25/05	170	74							
305PAC	2/23/05	80	190							
305PAC	3/24/05	800	1200							
305PAC	4/20/05	500	84							
305PAC	5/18/05	240	210							
305PAC	6/15/05	900	88							
305PAC	7/20/05	240	240							
305PAC	8/18/05	500	280							
305PAC	9/15/05	500	210							
305PAC	10/13/05	800	110							
305PAC	11/10/05	240	26							
305PAC	12/7/05	500	260							
305PAC	1/11/06	110	110							
305PAC	2/22/06	130	98							
305PAC	3/15/06	500	230							
305PAC		97_98_D			6	1400	235			
305PAC		97_98_W			6	900	350			
305PAC		97_98			12	1400	300			
305PAC		05_06_D			6	900	500	6	280	210
305PAC		05_06_W			9	800	240	9	1200	110
305PAC		05_06			15	900	500	15	1200	190
305PAC		ALL_D			12	1400	315	6	280	210
305PAC		ALL_W			15	900	300	9	1200	110
305PAC		ALL			27	1400	300	15	1200	190
305PAJ	12/18/97	2400								
305PAJ	1/19/98	16000								
305PAJ	2/10/98	16000								
305PAJ	2/19/98	1600								
305PAJ	3/5/98	130								
305PAJ	3/12/98	130								
305PAJ	5/27/98	130								
305PAJ	6/12/98	50								
305PAJ	6/30/98	30								
305PAJ	7/20/98	300								
305PAJ	7/31/98	110								
305PAJ	8/11/98	170								
305PAJ	9/3/98	170								
305PAJ	9/10/98	500								
305PAJ	9/30/98	130								
305PAJ	10/15/98	80								
305PAJ	10/21/98	300								
305PAJ	11/4/98	240								
305PAJ	11/10/98	110								
305PAJ	12/2/98	5000								
305PAJ	12/16/98	130								
305PAJ	1/7/99	80								
305PAJ	1/25/05	30	52							
305PAJ	2/23/05	230	160							
305PAJ	3/24/05	2400	2900							
305PAJ	4/20/05	80	110							
305PAJ	5/18/05	230	31							
305PAJ	6/15/05	300	84							
305PAJ	7/20/05	80	41							
305PAJ	8/18/05	130	410							
305PAJ	9/15/05	80	300							
305PAJ	10/13/05	500	86							
305PAJ	11/10/05	130	130							
305PAJ	12/7/05	2400	860							



SiteTag	DateTime	FCOLI	ECOLI	PERIOD	FCOLI_COUNT	FCOLI_MAX	FCOLI_MEDIAN	ECOLI_COUNT	ECOLI_MAX	ECOLI_MEDIAN
305SAN	9/3/98	300								
305SAN	9/30/98	300								
305SAN	10/21/98	170								
305SAN	11/10/98	500								
305SAN	12/16/98	80								
305SAN	1/24/05	1300	860							
305SAN	2/22/05	130	910							
305SAN	3/23/05	50000	61000							
305SAN	4/19/05	230	450							
305SAN	5/17/05	220	160							
305SAN	6/14/05	800	400							
305SAN	7/19/05	5000	1900							
305SAN	8/17/05	2300	2500							
305SAN	9/13/05	130	160							
305SAN	10/12/05	3000	51							
305SAN	11/9/05	50	31							
305SAN	12/6/05	900	200							
305SAN	2/21/06	900	210							
305SAN	3/14/06	700	410							
305SAN		97_98_D		6	600	235				
305SAN		97_98_W		6	11000	700				
305SAN		97_98		12	11000	300				
305SAN		05_06_D		6	5000	1550		6	2500	280
305SAN		05_06_W		8	50000	800		8	61000	430
305SAN		05_06		14	50000	850		14	61000	405
305SAN		ALL_D		12	5000	300		6	2500	280
305SAN		ALL_W		14	50000	800		8	61000	430
305SAN		ALL		26	50000	550		14	61000	405
305SBA	3/23/05	50000	61000							
305SBA		05_06_D		N/A	N/A	N/A		N/A	N/A	N/A
305SBA		05_06_W		1	50000	50000		1	61000	61000
305SBA		05_06		1	50000	50000		1	61000	61000
305SBA		ALL_D		N/A	N/A	N/A		N/A	N/A	N/A
305SBA		ALL_W		1	50000	50000		1	61000	61000
305SBA		ALL		1	50000	50000		1	61000	61000
305SJN	1/25/05	240	100							
305SJN	2/22/05	400	180							
305SJN	3/23/05	2E+05	1E+05							
305SJN	4/19/05	50	84							
305SJN	5/17/05	500	300							
305SJN	6/14/05	5000	3900							
305SJN	7/19/05	500	780							
305SJN	8/17/05	1100	440							
305SJN	9/13/05	500	170							
305SJN	10/12/05	2800	280							
305SJN	11/9/05	800	520							
305SJN	12/6/05	500	250							
305SJN	1/10/06	340	41							
305SJN	2/21/06	210	17							
305SJN	3/14/06	5000	1300							
305SJN		05_06_D		6	5000	800		6	3900	370
305SJN		05_06_W		9	160001	400		9	130000	180
305SJN		05_06		15	160001	500		15	130000	280
305SJN		ALL_D		6	5000	800		6	3900	370
305SJN		ALL_W		9	160001	400		9	130000	180
305SJN		ALL		15	160001	500		15	130000	280
305STL	1/24/05	240	-5							
305STL	2/22/05	240	31							
305STL	3/23/05	330	63							
305STL	4/21/05	2	10							
305STL	6/16/05	170	63							
305STL	7/21/05	23	190							
305STL	8/17/05	170	140							
305STL	10/12/05	700	240							
305STL	11/9/05	130	130							
305STL	12/8/05	40	52							





SiteTag	DateTime	FCOLI	ECOLI	PERIOD	FCOLI_COUNT	FCOLI_MAX	FCOLI_MEDIAN	ECOLI_COUNT	ECOLI_MAX	ECOLI_MEDIAN
305UVA	1/25/05	50	52							
305UVA	2/23/05	50	130							
305UVA	3/24/05	300	170							
305UVA	4/20/05	240	52							
305UVA	5/18/05	230	98							
305UVA	6/15/05	3000	41							
305UVA	12/7/05	30	31							
305UVA	1/11/06	110	86							
305UVA	2/22/06	50	49							
305UVA	3/15/06	300	120							
305UVA		97_98_D		2	130	120				
305UVA		97_98_W		5	1600	300				
305UVA		97_98		7	1600	130				
305UVA		05_06_D		2	3000	1615	2	98	70	
305UVA		05_06_W		8	300	80	8	170	69	
305UVA		05_06		10	3000	170	10	170	69	
305UVA		ALL_D		4	3000	180	2	98	70	
305UVA		ALL_W		13	1600	130	8	170	69	
305UVA		ALL		17	3000	130	10	170	69	
305VIS	2/10/98	900								
305VIS	3/5/98	500								
305VIS	6/12/98	70								
305VIS		97_98_D		1	70	70				
305VIS		97_98_W		2	900	700				
305VIS		97_98		3	900	500				
305VIS		ALL_D		1	70	70				
305VIS		ALL_W		2	900	700				
305VIS		ALL		3	900	500				
305WSA	1/24/05	70	-50							
305WSA	4/21/05	30	100							
305WSA	5/19/05	1300	200							
305WSA	6/16/05	240	97							
305WSA	7/21/05	240	10							
305WSA	8/18/05	30000	41000							
305WSA	10/13/05	2200	200							
305WSA	11/9/05	300	410							
305WSA	12/8/05	800	-50							
305WSA	1/12/06	240	260							
305WSA	2/23/06	30	41							
305WSA	3/16/06	170	240							
305WSA		05_06_D		5	30000	1300	5	41000	200	
305WSA		05_06_W		7	800	170	5	410	240	
305WSA		05_06		12	30000	240	10	41000	200	
305WSA		ALL_D		5	30000	1300	5	41000	200	
305WSA		ALL_W		7	800	170	5	410	240	
305WSA		ALL		12	30000	240	10	41000	200	